<u>REMARKS</u>

I.   <u>The 35 U.S.C. §103 Rejections</u>

A.   <u>Claims 1-19</u>

Claims 1-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,758,328 to Giovannoli ("<u>GIOVANNOLI</u>") in view of Fan, "Focus on the Future: Harnessing the Internet to Streamline Procurement of Mechanical Equipment" ("<u>FAN</u>") and U.S. Patent Application Publication No. 2002/0111894 to Stevens ("<u>STEVENS</u>"). Applicant respectfully traverses the rejections.

1.   <u>Claim 1</u>

It is axiomatic that the combination of the cited references in a §103 rejection must disclose every element in the rejected claim. Claim 1 recites a method for providing highly automated procurement services, comprising:

(a)   accessing a database initialized with information regarding a plurality of trading partners:

     (1)   said plurality of trading partners including customer and non-customer trading partners;

     (2)   said information including trading relationship information and pricing information involving at least a customer trading partner and another of said trading partners;

(b)   receiving a purchase request of a first trading partner among said trading partners;

(c)   automatically selecting at least one qualified trading partner from said trading partners based on said purchase request;

(d)   generating a purchase order based on:

     (1)   a portion of said trading relationship information and pricing information pertaining to said at least one qualified trading partner;

> (2)   said purchase request; and
>
> (3)   without requiring direct communication between said
> first trading partner and said at least one qualified trading
> partner;
>
> (e)   forwarding said purchase order to said at least one qualified
> trading partner;
>
> (f)   receiving a notification pertaining to said at least one qualified
> trading partner; and
>
> (g)   automatically processing said notification, including forwarding
> said notification to said first trading partner.

In the present office action, the Examiner acknowledged that Applicant's previously amended claim language distinguishes over the combination of GIOVANNOLI and FAN. See page 22 of the Official Action. The Examiner cited STEVENS as allegedly "bearing many points of resemblance."

Based on the arguments presented below, Applicant respectfully submits that STEVENS discloses a drastically different system than that of claim 1 and the combination of GIOVANNOLI, FAN, and STEVENS teaches away from claim 1 and fails to disclose or suggest at least one element of claim 1.

a.   The STEVENS Reference

STEVENS discloses a system and method for soliciting and receiving bids for goods or services necessary to satisfy a spot need of a buyer. STEVENS, page 1, paragraph 8. Initially, the system receives a request from a buyer to procure goods or services. Id. The system then automatically selects a group of potential bidders in response to the request. Id. Next, the system electronically notifies each potential bidder in the selected group of an opportunity to submit a bid. Id. The system electronically accepts bids from each potential bidder and selects a winning bidder among the received bids. Id.

b.   STEVENS Does Not Disclose or Suggest at least the database recited in Claim 1

Element (a) of claim 1 recites a database initialized with information regarding a plurality of trading partners (including both customer and non-customer trading partners). The information includes trading relationship information and pricing information involving at least a customer trading partner and another trading partner.[1] At least the pricing information is then used to prepare a purchase order to be forwarded to at least one qualified trading partner (recited in elements (d) and (e)). Thus, bidding for a purchase request is not necessary.

In contrast, in the system disclosed in STEVENS, no pricing information is initialized into a database. Pricing for a particular good or service is determined in a bidding system after a purchase request has been received.[2] STEVENS does not disclose or suggest using pricing information stored in a database to facilitate purchasing of any goods or services.

Similarly, both GIOVANNOLI and FAN disclose a bidding system.[3] None of the cited references disclose the database as recited in element (a) of claim 1.

    c.   The Cited References (GIOVANNOLI, FAN and STEVENS) All Teach Away from the Claimed Invention

---

[1]   This claim is supported by the Specification. See, for example, the Specification: Summary, paragraph 1; page 6, paragraph 2; and page 7, paragraph 2. The exemplary embodiments and implementations described in the Specification are merely illustrative. Thus, the claims should not be construed to be limited to those exemplary embodiments and/or implementations.

[2]   "The database includes a plurality of groups of potential bidders, wherein each of the groups of potential bidders is associated with purchasing requests directed to a particular good or service." STEVENS, page 1, paragraph 8.

[3]   "No central database of goods, prices, etc. is involved. Instead, buyers formulate requests for quotation and transmit them to the computerized network which broadcasts the request for quotation of one or more specified standard products to prospective sellers based on filter conditions ...." GIOVANNOLI, col. 2, lines 41-47 (emphasis added).

"Equally important, a well-designed system will not interfere with existing relationships between buyers and sellers because it will allow a buyer to select which suppliers should receive the RFQ." FAN, page 2, paragraph 2.

The cited references (GIOVANNOLI, FAN, and STEVENS) teach away from claim 1. All three references disclose a bidding system which does not initialize any pricing information into a database.[4] "A prior art reference that 'teaches away' from the claimed invention is a significant factor to be considered in determining obviousness." MPEP 2145. Thus, these references, either singly or in combination, cannot render claim 1 obvious.

d.   Commercial Success

In addition, the method recited in claim 1 has been implemented in the HP Buy-Sell process and has garnered multiple awards (domestic and international).[5] The Buy-Sell process is handled by HP's global procurement services group (GPS). See Exhibit 1, Purchasing, page 46. GPS buys parts from suppliers who have long-term contracts with HP and sells the parts to HP's customers (e.g., original design manufacturers (ODMs) and electronic manufacturing services (EMS) providers) at a higher price than what HP pays the suppliers based on the contracts. Id. HP does not reveal pricing information of one trading partner (e.g., a supplier) to another trading partner (e.g., a customer). Id.

Further, in the attached Benchmarking article dated July 8, 2003, the success of HP's GPS has been credited to its unique process:

> During the exercise it became obvious that
> HP's GPS 3 party buy/sell process is almost unique
> in the industry and represents a huge competitive
> advantage, enabling virtual controls in an
> outsourced manufacturing environment, controls
> such as price masking, better assurance of supply,
> central allocation management, bundled buying
> power, supplier share management, price volatility
> management, contractual compliance, etc.   Exhibit 2,
> Benchmarking, page 1, paragraph 4.

---

[4]   See, for example, col. 2, line 41 of GIOVANNOLI ("No central database of goods, prices, etc. is involved.").

[5]   The 2004 Medal of Excellence Award (September 2, 2004) and the 2003 Benchmarking Award (July 8, 2003). See Exhibits 1 and 2.

Thus, the invention recited in at least claim 1 has achieved considerable commercial success which provides additional evidence that this invention is not obvious to one of ordinary skill in the art.

e. Conclusion

Based on all the foregoing, claim 1 is not obvious in view of the cited references and should be in condition for allowance.

2. Dependent Claims 2-19

Dependent claims 2-19 are dependent on claim 1. Based on the foregoing arguments regarding claim 1, these dependent claims should also be in condition for allowance.

B. Independent Claims 20, 21, 37, 42 and 43

Independent claims 20, 21, 37, 42, and 43 were rejected under 35 U.S.C. §103(a) as being unpatentable over GIOVANNOLI in view of at least FAN and STEVENS. Applicant respectfully traverses the rejections.

Independent claims 20, 21, 37, 42, and 43 include similar limitations as discussed above regarding claim 1. Based on the foregoing arguments for claim 1, these independent claims are also not unpatentable over the cited references and should be in condition for allowance.

C. Dependent Claims 22-36, 38-41, 44-47

Claims 22-36 are dependent on claim 21. Based on the foregoing regarding claim 21, these dependent claims should also be in condition for allowance.

Claims 38-41 are dependent on claim 37. Based on the foregoing regarding claim 37, these dependent claims should also be in condition for allowance.

Claims 44-47 are dependent on claim 43. Based on the foregoing regarding claim 43, these dependent claims should also be in condition for allowance.
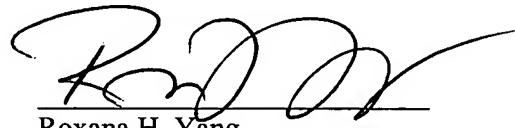
D.   New Claims 48-53

Claims 48-53 have been added. These claims are supported by at least page 10, paragraph 2, of the Specification.[6] No new matter has been added.

II.   Conclusion

In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance. Should the Examiner believe that a telephone interview would help advance the prosecution of this case, the Examiner is requested to contact the undersigned attorney.

Respectfully submitted,

By: Roxana H. Yang
        Registration No. 46,788

PATENTESQUE LAW GROUP, LLP
P.O. Box 400
Los Altos, CA 94023
(650) 948-0822

---

[6]   The exemplary embodiments and implementations described in the Specification are merely illustrative. Thus, the claims should not be construed to be limited to those exemplary embodiments and/or implementations.

Purchasing

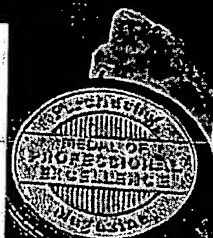## THE MAGAZINE FOR CHIEF PROCUREMENT OFFICERS AND SUPPLY CHAIN EXECUTIVES

www.purchasing.com
www.purchasingdata.com

MEDAL of EXCELLENCE

HP wins... AGAIN!

PAGE 34

Dick Conrad, (standing)
Wolfgang Zenger and Greg
Shoemaker implemented
or refined the supply chain
and purchasing strategies
that resulted in Hewlett-
Packard winning
PURCHASING Magazine's
Medal of Professional
Excellence Award.

Purchasing®

THE MAGAZINE FOR CHIEF PROCUREMENT OFFICERS AND SUPPLY CHAIN EXECUTIVES
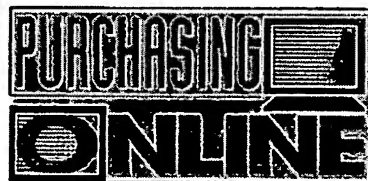
VOLUME 133/NO. 14   SEPTEMBER 2, 2004

contents

Clockwise from top: Hewlett-Packard's
Dick Conrad, Greg Shoemaker, and
Wolfgang Zenger.

Cover photo by Marc Berlow

PURCHASING ONLINE
WWW.PURCHASING.COM
WWW.PURCHASINGDATA.COM

Purchasing Business Intelligence Center

Latest PURCHASING data online—24/7
Buyers and supply strategists can now obtain round-the-
clock access to PURCHASING's most up-to-date data covering
transaction prices, buyers' price expectations, leadtimes,
and more. Go to purchasingdata.com to subscribe.

departments

web highlights

PURCHASING Webcast series:
Sept. 15th & 29th—

• **Analyze:** Learn strategies for find-
ing, aggregating, and analyzing cor-
porate spend and supplier data.
Sept. 15, 1:00 PM ET / 10:00 AM PT
• **Go to market:** Hear from experi-
enced market makers on their strate-
gies for choosing the right bidding
tools, structuring sourcing events,
and analyzing results.
Sept. 29, 1:00 PM ET / 10:00 AM PT
Register now at
www.purchasing.com/SAP

Congratulations to Hewlett-Packard

Hewlett-Packard is the 2004 winner of PUR-CHASING Magazine's Medal of Professional Excellence, becoming the first company to win the award two times.

When HP first won the award in 1992, it was a different company. It was smaller, very decentralized and much more vertically integrated. Today HP is much larger due in part to its merger with Compaq Computer. The company has a more centralized purchasing structure and it outsources most of its manufacturing. The company has

Jim Carbone,
Executive Editor,
Electronics

changed with the times and its willingness to change is one reason it won the award again.

There are other reasons. The company involves purchasers in design to make sure preferred suppliers and standard parts are used whenever possible in new designs. While HP wields considerable buying clout because it is the largest purchaser of many production materials and services, it treats suppliers like partners, not adversaries. It involves suppliers in design, tapping into their technical know-how and working with them on technology roadmaps.

It has an executive sponsor program in which high-level HP executives meet regularly with supplier executives to discuss new business opportunities, technology trends and other business issues.

Perhaps the single biggest reason HP won the award is its willingness to admit mistakes and its ability to correct them. An example of this is in the 1990s when HP decided to outsource more of its manufacturing to electronics manufacturing service (EMS) providers, it also outsourced much of its strategic purchasing. It gave up its relationships with many key suppliers and lost visibility into the supply chain. "That was wrong," says Dick Conrad, senior vice president global operations, supply chain. "Maintaining supplier relationships is a critical differentiator."

HP took back the supplier management responsibility from its EMS providers and has forged new partnerships with key suppliers. Those relationships will be even more critical in the years to come. HP will be under pressure to further reduce the cost of its equipment while making sure it has access to the latest and greatest technology developed by suppliers.

Jim Carbone

Hewlett-Packard wins *for the* 2nd time

When HP merged with Compaq in 2002, it tapped into the purchasing brainpower of both companies and implemented, refined or expanded a host of programs to cut supply chain costs. Its efforts have earned HP PURCHASING magazine's 2004 Medal of Professional Excellence award.

BY JAMES CARBONE

When Hewlett-Packard and Compaq Computer Corp. announced that they would merge, Dick Conrad and Greg Shoemaker were given a big challenge.

The two had to merge the purchasing and supply chain operations of two large multinational high-tech companies with seemingly different strategies into a single cohesive world-class supply chain organization.

It was no easy task as the merger involved hundreds of supply chain and purchasing professionals in dozens of facilities around the world. The companies had different purchasing strategies and different processes that would have to be somehow integrated.

But Conrad, senior vice president, global operations supply chain and Shoemaker, vice president of procurement, said that while merging operations was challenging it also presented huge opportunities. By aggregating the purchases of the two companies and having a more centralized corporate purchasing structure, the new Hewlett-Packard would have unprecedented buying clout. Indeed, in 2004 HP's total spend with production suppliers will be $43 billion, and HP is now the number one buyer of many electronic components, production materials and manufacturing services.

Besides improving its purchasing leverage, the merger presented an opportunity to leverage the purchasing expertise that resided in both organizations.

One of Compaq's strengths was that its purchasing operation was centralized and the company was skilled at aggregating demand and leveraging purchases with suppliers. HP was more decentralized, but was more experienced at involving buyers in new product development to make sure cost never got designed into a product.

When the supply chain and purchasing organizations merged, HP used its combined resident purchasing brainpower to pursue a variety of leading edge supply chain programs. Among those include risk management, spend analysis, e-procurement and a process called "buy-sell" in which HP buys parts from suppliers and then sells them to its outsourcing partners.

In addition, HP adopted a leading-edge program in which HP assigns executive sponsors to key suppliers. The sponsors are a high-level point of contact for suppliers and oversee HP's relationships with suppliers.

Such initiatives have resulted in HP saving $1.2 billion in production materials cost in the merger. The initiatives have also helped HP reduce its supply chain cost as percent of revenue by 22%, cut inventory by 21%, and reduce HP's logistics cost per box by 11% over the last year at a time when logistics costs increased for most companies. The initiatives have resulted in more collaborative, less transactional relationships with suppliers.

HP's supply chain and purchasing strategies and practices are the reasons why HP is the 2004 winner of PUR-

CHASING Magazine's Medal of Professional Excellence award. HP becomes the first company to win the medal twice in the 21 years that PURCHASING magazine has bestowed the coveted honor. It previously won in 1992.

Conrad says since the merger, the mission of his organization has been to reduce supply chain cost and improve asset efficiency while enhancing value to HP's customers. It has done so by simplifying its operations and processes and by consolidating its supply base and its own operations.

HP has reduced its number of direct material suppliers by 53% from 1,500 to 720. It has cut the number of logistics partners including 3PLs, freight forwarders and transportation carriers by 68%.

"We have also reduced the number of HP-owned sites by 49% over

HP's supply chain and procurement leadership team have saved the company more than $1 billion since 2001. Back row from left: John Frasca, Patrick Scholler, Venu Nagali, Mark Nixon, Wolfgang Zenger. Seated from left, Rob Terrill, Dick Conrad, Greg Shoemaker.
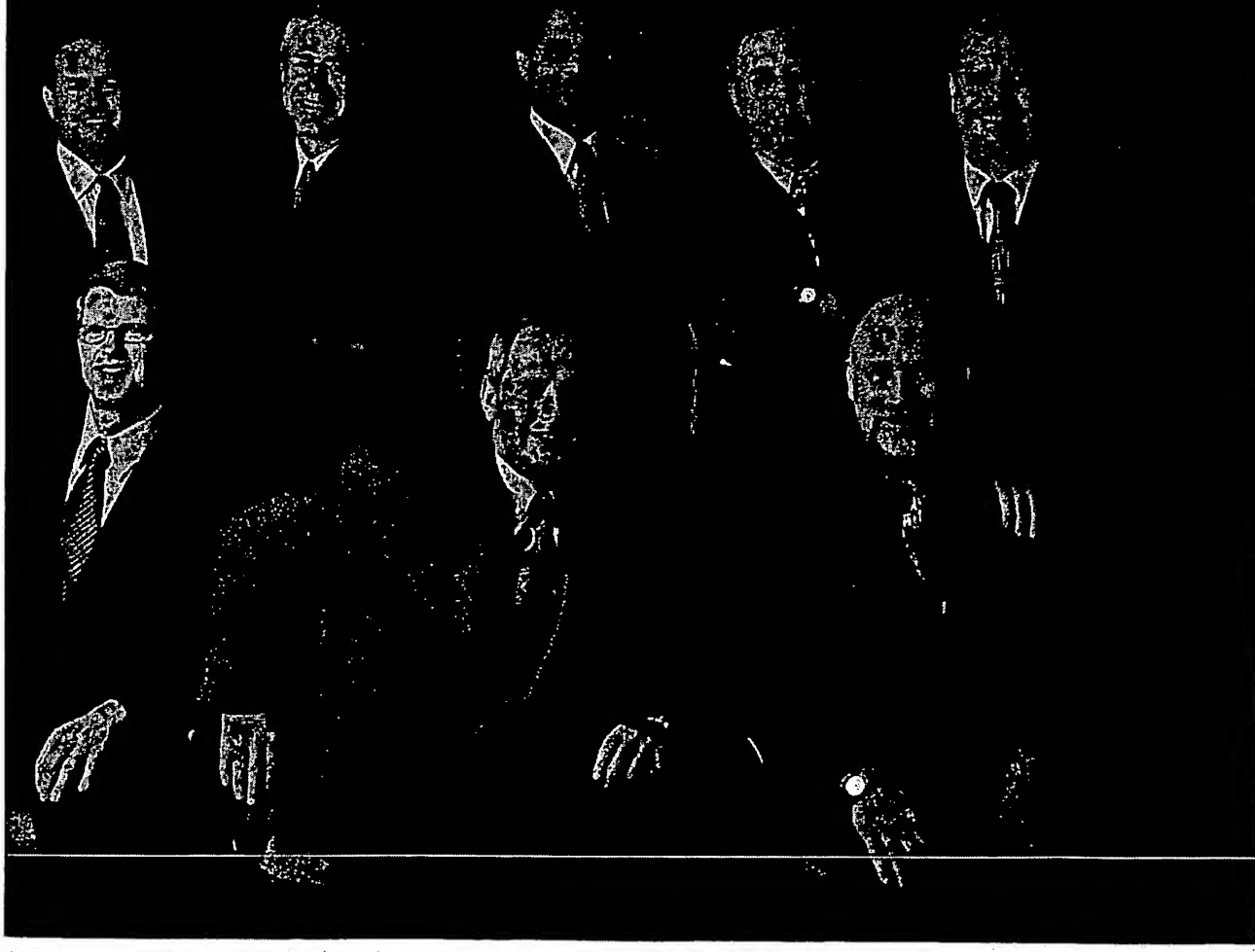
medal of excellence

the last two calendar years and the number of outbound distribution centers by 38%," says Conrad.

HP did not make those decisions to consolidate operations and suppliers in a vacuum. It collaborated with suppliers.

"We meet with key suppliers once a quarter. We asked 'What can HP do to make our overall combined supply chain more effective?'," says Conrad. "They told us that HP had too many places in the world. They said, 'If you could simplify your physical network, it would be a big benefit.' So we worked with suppliers, pooled inventory and cut down on the number of inventory hubs around the world and we will continue to do that," he says.

While consolidating operations and suppliers was important, the top priority for HP after the merger was to leverage its new size and scale.

"We are now the largest buyer of virtually every category that we buy: memory, disk drives, contract manufacturing services, logistics and we leverage that procurement power," says Conrad.

However, before it got to the point where it could take advantage of its buying clout, HP had to get a handle on how much it was spending on which commodities and with which suppliers. HP undertook an extensive spend analysis program to aggregate its spend data so it could develop meaningful supply strategies.

"What we have done is put in a process by which we accumulate spend data in a central repository quarterly," says Shoemaker. The data is gathered using two home-grown software programs called Total Buy and Buy Power.

"We have an extensive database and the information can be sliced and diced by commodity, supplier, region and by business unit," he says. That information is available to HP buyers through a secure website.

Spend analysis data is critical to contract management at HP, according to Shoemaker. HP uses the information in its contract negotiations to show how much in total HP is spending with a supplier so it gets a better price or better terms and conditions on all commodities.

"Knowledge is power," says Shoemaker. "The more knowledge you have about your spend and relationships with suppliers, the better your result will be."

Prioritize this

A key part of HP's spend analysis strategy is setting priorities. "We pay more attention to hard drives than resistors," says Rob Terrill, manager procurement programs and processes. "Drives are a high-dollar spend so you focus your resources where you are spending the most amount of money." So, much of HP's spend analysis has been done on drives, memory ICs, microprocessors, printed circuit boards and connectors.

> "Executive sponsors serve as a mouthpiece to suppliers. Their responsibility is to ensure we are pursuing strategies that are synergistic with suppliers and result in positive outcomes for both companies," says Dick Conrad, senior vice president global operations supply chain.

HP is top buyer in 10 categories
(total spend: $43 billion)

- Memory
- Microprocessors (Intel & AMD)
- Windows software (Mircrosoft)
- Hard disk drives
- Laser engines
- Optical disk drives
- Chipsets (Intel)
- LCD panels & many more
- CM/ODM spend
- Electronics industry logistics procurement

SOURCE: HEWLETT-PACKARD

Terrill says spend analysis data is critical in managing multi-commodity suppliers. For example, HP buys millions of dollars of semiconductors from Samsung that are used in a variety of HP equipment. "We want to make sure that we present one face to Samsung and have maximum negotiation power," he says. "If you have different groups at HP approaching suppliers on a piecemeal basis, then you are not going to get the leverage you would get as a single large customer," he says.

Spend analysis has been key to HP being able to aggregate its purchases and is one reason the company has been able to reduce materials costs by more than $1 billion since the merger. In addition, spend analysis will be useful when parts go on allocation. It enables HP to present data to suppliers that shows how much HP buys from them, making a case for why HP deserves preferential treatment because of the size of its buy.

Shoemaker says while spend analysis is a useful tool, just having the knowledge about spend does not produce results. The information has to be used to formulate a strategy or a business practice.

One way HP uses spend analysis data is with supplier executive sponsors. HP has about 45 executive sponsors who meet with suppliers at least twice a year to review business issues. Sponsors are part of HP's strategy to make its relationships with suppliers more synergistic and less transactional.

Executive sponsors give suppliers "a single point of contact within HP and enable suppliers to get preferred access to HP and to meet with product development and marketing teams up front to work together on programs," says Conrad. "We encourage them to be open. They have a place to go at a high level."

The sponsors are vice presidents or senior vice presidents at HP. "Their

responsibility is to ensure we are pursuing strategies that are synergistic and result in positive outcomes for both companies," says Conrad. "They serve as a mouthpiece for all of HP to the supplier."

Before the sponsor meets with a supplier, HP purchasers provide an extensive summary of its business with the supplier including analysis data. "We categorize spend and opportunities with the supplier in every commodity," says Shoemaker. "The executive sponsor sits down with the CEO or COO of the supplier and says 'Here are your opportunities with HP and here are our issues!'"

The sponsor and the supplier executive can decide jointly "who should address the opportunities and issues in an individual and holistic manner," according to Shoemaker. He says having executive sponsors shows suppliers that they are integral to HP's success and are valued by HP. "We share with suppliers what our overall corporate goals are."

It is easy to see why HP uses executive sponsors. "We may have a supplier that we are doing hundreds of millions or even a billion dollars of business with," says Shoemaker. Often a supplier is providing multiple commodities to multiple HP business groups.

"What we found is having those senior executive relationships results in HP addressing that entire spend with a supplier not just a portion of it. It causes us to be more focused." He adds that supplier executive sponsors have also gone a long way to help foster and nurture relationships with strategic suppliers. "We are dependent on suppliers. We cannot succeed without them. Our success is their success."

HP needs suppliers to develop new technologies. "We are spending a lot on research and development (R&D), but we are dependent on suppliers for R&D, too," Shoemaker says. "We are spending money to open up new marketplaces and suppliers will be able to participate in those if we have more holistic kind of relationships."

Of course, executive sponsors aren't the only ones working with suppliers at HP. Commodity teams manage supplier relationships and set supplier strategies.

Huddle up

The teams typically meet once a week and are lead by commodity managers. They include procurement engineers, product marketing people, and R&D members.

"Teams are primarily focused on new product introduction (NPI), says Shoemaker. "I would say 70% of their time is on NPI. A significant amount of time is focused on how products and suppliers are performing."

By way of example, Shoemaker says: "We may be launching a new product in a month, but a key supplier is having a

HP e-sources when it makes sense

Reverse auctions are one tool that Hewlett-Packard uses to reduce material cost and to speed up procurement cycle time. However, HP is careful how it uses reverse auctions. It doesn't want to antagonize suppliers of strategic components.

"This year we will do 408 events, source $6.4 billion of materials and services, and we will save more than 10%," says Dick Conrad, senior vice president global operations supply chain. Prior to the 2001 merger of HP with Compaq, HP had done 28 e-sourcing events and bought $360 million of parts and services.

Conrad says there is an appropriate time to use e-sourcing. "You are not going to e-source microprocessors or operating system software," he says. "It is appropriate when there are a large number of suppliers."

HP uses reverse auctions for indirect materials and for transportation services, packaging, plastic resins, power cords and batteries.

He says e-sourcing events are merely one tool in HP's supply chain toolbox. "Depending on the market dynamics at any particular point in time, it may or may not be an appropriate tool to use. You have to be careful. Early on we used it in inappropriate ways and suppliers gave us feedback and we factored that into our forward plans," he says.

Karim Mohara, manager of e-sourcing for HP, says doing reverse auctions depends on several factors. "One is complexity of the components. When you have a leading-edge product it is hard to find several suppliers."

He says like most companies HP first started using e-sourcing as a tactical spot market buying tool. However, the company soon learned it could be used as a strategic tool as well. "We discovered the technology could be used as an enabler for the strategic sourcing process."

He says some of HP's e-sourcing efforts are focused on new product introduction.

"The emphasis is on collaboration with suppliers and the tool provides a good mechanism to collaborate with suppliers up front and to get their feedback," says Mohara. "It is interactive to make sure suppliers get all the information before going to quotation."

HP uses Freemarkets to send out requests for proposals (RFPs) and requests for quotations (RFQs) to a broad base of suppliers or to a select few, says Mohara. The tool can help HP determine which suppliers are interested in its business and which ones are qualified to supply HP.

The online RFQs and RFPs speed up the time it takes to do a deal and to structure reverse auctions. Mohara says e-sourcing can cut down on procurement cycle from six weeks to four to five weeks.

While HP expects e-sourcing to cut material costs by 10%, it has done reverse auctions in which it saved 40% for cables and batteries.

While reverse auctions have become popular in a buyers' market, they can also have a place in a sellers' market. "If there are numerous sellers that want to penetrate your business, it could still be advantageous," says Conrad.

—James Carbone

HP elevates indirect procurement role–and exceeds savings goals

At HP, Larry Welch, vice president of indirect procurement, reports to Gilles Bouchard, executive vice president of global operations and IT. Such visibility makes a big difference in what the indirect procurement operation is able to accomplish.

One of indirect procurement's goals is to slash spending by $1 billion in three years from an annual purchasing tab of nearly $14 billion. Indirect procurement at HP is responsible for setting sourcing strategy for areas: information technology (IT), human resources (HR), marketing, travel, real estate, finance and labor.

Meeting this cost target is nothing new to HP's indirect procurement organization. In the past five years Welch and his team have twice surpassed savings goals. They exceeded a target of $250 million one year ahead of schedule after a corporate-wide move to take a more global approach to the indirect spend. Then, they readily met a savings objective of $350 million set at HP's merger with Compaq. Now, they are well on their way toward that $1 billion goal.

Welch, a 28-year HP veteran, assumed his current post late in 1999 when HP was reorganizing itself along global rather than geographic lines, with indirect procurement taking a similar approach to spending activities falling under its purview. Such an approach would better leverage the company's spending and provide discipline around procurement practices.

At the time, indirect procurement was fragmented; each of the the company's businesses, which have locations in more than 100 countries, was sourcing for IT, HR, and marketing on its own. There was no common procurement strategy, policy or platform.

Consolidating purchasing of these services was challenging. Credibility and trust are key to an indirect procurement operation's success. With that in mind, Welch and his team worked closely with business leaders to evaluate each category of spending to determine whether it could be consolidated on a global or regional level.

"By the time we announced the merger on Sept. 4, 2001, we had done a good job of defining ourselves and getting ourselves branded within the company and exceeded our cost savings goal by rationalizing the supply base and managing it differently," says Welch. "We had in place a basic platform in terms of policy, processes and tools. The kernel of what we would become was in place and ready to go at that time."

Among the tools indirect procurement implemented in 1999 were an order fulfillment system based on an Ariba solution that provides a single buying channel for use by 40,000 employees worldwide and a spend analysis and management system developed internally. Since that time, the organization has also deployed sourcing, contracting and eRFx and e-auction tools. Today, 95% of HP's indirect spend flows through the Ariba system, says Chris Connors, manager, indirect procurement process engineering and esolutions.

Further consolidation

After the merger was announced, Welch entered a "clean room" in Houston for six months to work with his counterparts at Compaq to integrate the indirect procurement operations of the two companies. Indirect procurement at Compaq, "although two years or so behind HP was on the same road toward consolidation," he says. Welch and his team got to work consolidating the two organizations, procurement systems and supply bases. "We were able to declare victory one year early, exceeding a cost savings target of $350 million by $27 million," he says. To that end, indirect procurement reduced the supplier base from more than 100,000 suppliers to about 52,000. Now, 82% of the HP's indirect spend is with 265 suppliers. During that time, the organization also reduced its operating costs by 50%, with many tactical duties now being performed at offshore locations.

"For some indirect buys, we were able to move very quickly with consolidation because aggregating the purchase did not disrupt operations or have a direct impact on business strategy," says Welch. "In other areas such as marketing, HP was changing the way it branded itself and the way it advertised its products and solutions. Indirect procurement really differentiated itself in this area by becoming fully engaged with the businesses to understand the strategy and translate that into our procurement strategy."

To measure performance, supplier base and supplier relationship managers ensure that tier-one suppliers (the top 156) are performing to their agreements, says Becky Cornett, director of indirect procurement, global commodities. For tier-two and tier-three suppliers, the indirect procurement team uses an online tool to track technology, quality, responsiveness, delivery, environment and cost metrics.

Looking ahead, Welch plans to continue executing purchasing fundamentals and develop global and regional sourcing strategies, including working to continue to optimize the supplier base. "On top of that, we will apply supply chain techniques to the buy and horizontally attack total cost of ownership, extracting significantly more cost while maintaining quality levels and making it easier for internal stakeholders to execute processes."

—*Susan Avery*

Larry Welch, vice president of indirect procurement, and his team are on the way to beating a $1 billion savings goal.

medal of excellence

yield issue with a part. The commodity teams would work with the supplier to resolve the issue." The teams would also work on quality, delivery or shortage issues involving the commodity.

With NPI, the commodity teams meet with product marketing teams to discuss plans for new products one to two years out.

It's the commodity team's job to determine what new HP products will mean in terms of supply and what needs to be sourced for them.

"Are we going to Sata (serial advanced technology attachment) drives or are we going to Pata (parallel) drives? Are we going to go to fiber channel? Are we going to 2.5-inch drives or 1-inch drives?" asks Shoemaker.

Commodity teams have to look at product roadmaps, share them with suppliers, determine who has the technology and products that will be needed and then formulate sourcing strategies.

Purchasing involvement in design focuses on what HP and other companies call "design for X."

"We collaborate on design for X. We want to design for transportation costs, lowest cost, reliability and postponement," says Conrad. Postponement is delaying the inclusion of certain product features until it is about to be shipped to a customer.

"One thing you can do to reduce transportation costs is to make your products smaller and use less packaging," says Conrad. HP has done that with some computers, reducing logistics cost for those products.

Another initiative involved designing for "variety control" says Conrad. "We did an analysis in our PC division and found that 90% of demand was constrained to a small number of stock keeping units (SKUs)." HP redesigned the PC platform, reduced the number of products by 52% and was able to cut its inventory by $25 million. At the same time the company still expanded market share for PCs.

Sometimes HP realized savings by looking at seemingly minor products. Example: power cords. HP buys about 100 million power cords per year. "We had different lengths. Sometimes the
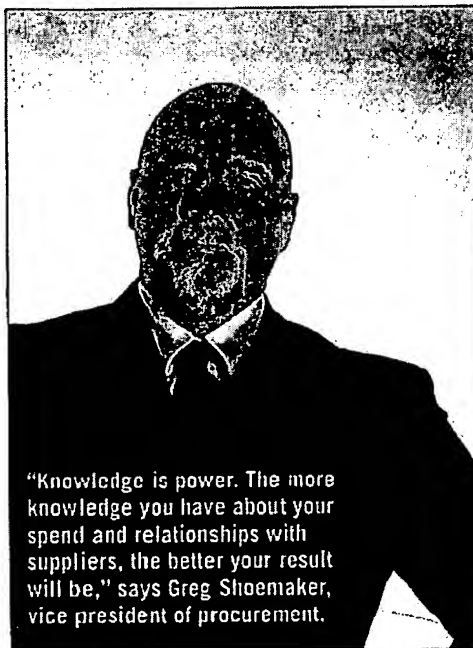
"Knowledge is power. The more knowledge you have about your spend and relationships with suppliers, the better your result will be," says Greg Shoemaker, vice president of procurement.

length varied by just an inch," says Conrad. HP reduced the variety of cords, cut its number of power cord suppliers by 62%, and reduced its power cord spend by 20%.

Role in design

Brian Cargille, product design for supply chain manager for global operations, says such savings are realized by having buyers on new product development teams.

Cargille says new product development teams have program design leads, who come from research and development and new product introduction managers, who are responsible for getting products manufactured. "About 40% of new product introduction managers have a procurement background. Often they come up through purchasing," he says.

Purchasing's role is to determine the material and labor costs for new products and to make sure preferred suppliers are used in new product designs.

Purchasing also determines if there is material commonality between the new product and other HP products. If there is commonality, HP may decide to reuse parts for the new design, meaning parts that were designed into other HP products would be used in the new product as well.

Component reuse often lowers cost

and saves time because parts and suppliers have already been qualified. In addition, HP can improve leverage with suppliers because it is buying more parts from the supplier.

An example of reuse would be chassis. A new consumer PC may be designed with a new chassis. However, a chassis being used for a business computer may be suitable for the consumer PC as well. Rather than designing a new chassis, HP could use the older one and the same supplier. In fact, HP saved $4 million in material costs by going to a common chassis for servers, says Cargille. "It's not purchasing's job to beat the commonality drum, but to shine some light on the option of using a common chassis. We do a quantitative analysis based on the data that we have and make the decision that is in the best interest of HP."

Doing careful analysis has contributed to the $300 million savings in design for X efforts. Cargille offers several examples including one involving CD/RW drives.

Cargille says HP had been selling 20 CD/RW drives through its retail channel. Marketing had planned to increase the number to 80. After careful analysis, Purchasing determined that increasing the number of drives would boost inventory and services levels. HP would have to sell thousands more drives just to break even on the products.

Instead of producing more, the number of controls was reduced from 20 to nine and profit for drives went up 16% because inventory and materials costs were reduced.

In another example HP cut material costs by $33 million using fewer rail kits for its servers. Rail kits are use to mount servers to cabinets.

"We had 14 rail kits and reduced the number to five," says Cargille. "Not only did we cut inventory, but we actually were able to dramatically reduce materials costs," says Cargille.

Risky business

While much of purchasing's effort is dedicated to reducing the cost of HP

medal of excellence

products, HP buyers are also heavily involved in efforts to reduce risk. HP's procurement risk management (PRM) program is designed to guarantee supply and make sure HP doesn't buy parts it doesn't need.

HP has developed and patented home-grown software tools that use "sophisticated statistical techniques that look at demand patterns over time cyclically and industry capacity" and predict what demand and HP's material requirement will be, says Conrad.

"With high statistical confidence we are able to commit very stable demand profiles to certain suppliers," he says. HP uses the tools to forecast demand for memory, motherboards, optical drives, liquid crystal displays and batteries. Suppliers are given six months to a yearlong view into HP demand.

"This enables suppliers to get their material pipelines in place, to size their factories to mitigate some of the volatility in demand," says Conrad. "As a result we get a supply guarantee and sometimes price concessions."

Using PRM HP can commit, with confidence, to purchase a certain amount of material at a certain price.

HP's PRM tools help the company deal with uncertainty in the supply chain, says Patrick Scholler, director of procurement risk management. "There is uncertainty in the supply chain and we have to plan for surprises. For instance right now there is a lot of uncertainty

with DRAMS and thin film transistor LCDs," he says.

While HP is a large buyer of many parts and gets world-class prices, it can still be affected by allocations. "HP is a huge company and we are number one in terms of purchasing volume for a lot of components, including microprocessors and memory," says Scholler. "At the same time, we are vulnerable when it comes to supply because we need such huge amounts of components."

Future pricing

Also important is forecasting pricing because with some customers such as the government, HP has to quote prices for its products six months to a year ahead of delivery time. Prices for many products such as memory and LCDs are volatile and could rise significantly in a six-month period. So, being able to accurately forecast materials costs is important in pricing products that won't be delivered immediately.

Venu Nagali, PRM consultant and account manager, says HP's PRM tools forecast materials prices up to two years in the future.

"We know what the cost of memory is today, but we want to forecast six to 24 months out. Clearly it is uncertain, but our tools tell us how low the prices can go from now and how high they can

"We know what the cost of memory is today, but we want to forecast six to 24 months out. Clearly it is uncertain, but our tools tell us how low prices can go from now and how high they can go," says Venu Nagali, PRM consultant and account manager.

go," he says.

Forecasts are based on current prices, prices for the past month, historical prices and demand for semiconductor fab capacity. If fab capacity is in excess, prices will be low. If fabs are full, prices tend to be higher, says Nagali.

The tools also quantify demand uncertainty. Uncertain demand is quantified as low, base and high. Low uncertainty means low demand. "It's like saying we will definitely ship 1,000 PCs. Demand for that number is certain," he says. In that case HP can do long-term contracts with suppliers.

With base and high there is more uncertainty and HP would like suppliers to take more of the risk, which could mean it asks suppliers to build parts and then hold them in inventory.

If a supplier agrees to take on the risk, HP may award the supplier business for the part of the forecast in which demand is certain. "You can have a scenario where suppliers get compensated for taking a risk" through higher prices or a bigger commitment from HP to buy parts, according to Nagali.

Simply put, PRM provides HP with information it can use to structure contracts to guarantee availability and

Procurement risk management (PRM) cuts cost

Direct materials quantity commitments

Commodity	Cost savings
Custom ASICs	12%
Assemblies	8%
Flash memory and Nonvolatile memory	5%
Parts for repair and refurbishment	4%
Hard disk drives	2.3%
DRAM	0-10%
Plastic resin	2.5%
Average	5%

	FY '03	Since inception
Spend through PRM process	>$700M	>$3 Billion
Cost Savings	>$40M	>$70M
Number of HP systems proteced against cost volatility	>$5M	>$8M
HP employees exposed to PRM training	>140	>500

SOURCE: HEWLETT-PACKARD

determine how much it should pay. "If you believe over the next three years that flat panels could be hot, then you can use that information to design contracts to protect the company for the next three years," says Scholler.

One reason reducing risk is important to HP is that the company outsources most of its manufacturing to electronics manufacturing services (EMS) providers and original design manufacturers (ODMs). While manufacturing is outsourced, sourcing of critical components such as hard drives, memory, and microprocessors is not. These parts are managed by HP and risk management is critical because it serves as the basis for long-term contracts with suppliers of the critical components.

The execution of these contracts is handled by HP's global procurement services group (GPS).

Buying and selling

GPS buys parts and sells them to the company's ODMs and EMS providers in what HP calls its "buy sell" process. Parts are sold to the EMS provider at a higher price than what HP pays the supplier.

HP masks prices from its EMS providers and ODMs. HP believes it gets preferential pricing from suppliers because of the huge volumes it buys. Because many EMS companies have multiple customers, HP does not want its competitors to get the same prices that it receives.

Wolfgang Zenger, vice president of

GPS, says in the 1990s HP outsourced a lot of its strategic purchasing to EMS providers as well as its manufacturing. That proved to be a mistake.

"We had given too much control to contract manufacturers," he says. HP lost a lot of visibility in the supply chain because its relationships with suppliers weren't as tight as they should have been. "So we took some control back in house" through the buy sell process, he says.

Conrad says price masking isn't the only purpose of the buy sell.

Buy sell gives HP the ability to control allocation of materials. "If a part goes into short supply, we are able to control the purchases and can direct the material to ODMs or internal factories where we need it most," says Conrad. "We can protect our customers and our margins."

During the "outsourcing craze,"

HP executive wants purchasing to "raise the bar"

When Hewlett-Packard first won the Medal of Professional Excellence in 1992, purchasing was strategic to the company's success even though the company was much different than it is today.

Back then, HP was smaller, more decentralized, had a less diversified customer base and product portfolio and was more vertically integrated.

Since then, the company has grown to a $70 billion technology powerhouse with a broad product portfolio and a large customer base. It is the leading purchaser of a variety of electronic components and uses electronics manufacturing services (EMS) providers and original design manufacturers (ODMs) extensively.

Because of its growth, product diversification, buying clout and outsourcing model, purchasing is more strategic-than-ever to HP, says Gilles Bouchard, chief information officer and executive vice president of global operations for HP.

"This year we'll have a $43 billion direct material spend and a $10 billion indirect spend. Material costs represent 60%-70% of our revenue. Purchasing is huge for us because we do a lot of leading-edge work with suppliers," says Bouchard.

Suppliers work with HP's new product development teams to bring new technology to HP products and purchasing plays a leading role on those teams.

"We have always had a strategic approach to purchasing and not a day-to-day view," says Gilles Bouchard, chief information officer and executive vice president of global operations for HP.

A purchasing role in managing suppliers is integral to HP, he says. Such programs as buy sell, procurement risk management and e-sourcing have been key to HP over the last several years.

"Buy sell is important because so much of our product is outsourced," says Bouchard. "We have been doing

this for awhile, but it is still a unique process. "With buy sell, HP purchases parts from suppliers and then resells them to its ODMs and EMS providers. (see main story)

PRM will continue to be important because of the volatility of some commodities such as DRAMs and liquid crystal displays.

While those programs have helped reduce cost and risk, there is still room for improvement, says Bouchard. "I see a lot more potential for PRM, e-sourcing and how we aggregate our spend. We need to continue on the path that we have set over the last two years. My view is we are only half way there," he says. "We will do even better. Keep raising the bar is the name of the game."

Bouchard says he doesn't see any big changes that need to be made to HP's purchasing strategies and practices. However, working with suppliers to improve their overall performance and develop new technology will be important to HP's success.

"We have always had a strategic approach to procurement and not a day to day view," he says. "We want to build relationships with suppliers who are with us for the long run."

—*James Carbone*

many OEMs outsourced supplier relationship management in addition to manufacturing, says Conrad. "That's wrong. Maintaining supplier relationships is a critical differentiator. The buy sell process allows us to control and enforce our share awards with suppliers," he says.

About $20 billion of HP's $43 billion production spend goes through the buy sell process managed by GPS.

But GPS has other duties than buy sell. GPS is kind of a super international procurement office (IPO). It has 300 people distributed around the world with about 60% of them in Asia. "We are close to where HP's outsourced manufacturing is taking place in China, Southeast Asia, Japan and Korea," says Zenger. "That is where we have people located to provide market intelligence and do factory audits so HP people in the U.S. or Europe don't have to travel into those regions."

HP's business units contract with GPS for services. "We provide commodity management services including supplier audits," says Zenger. GPS will also buy on behalf of the business units. "We are a service organization and operate like a business. We are self-funded. We provide services and business units pay us," he says.

GPS provides market information and looks to identify sourcing opportunities for corporate purchasing and for HP's business units.

GPS identifies new sourcing opportunities and transfers knowledge from the business units into the supply base so that HP and potential new suppliers can optimize designs.

"We are HP's eyes and ears in the markets where the action happens," says Zenger. "We own a lot of supplier relationships day to day because we place orders, we go out and do factory audits. We know what is going on. We have real-time and forward looking

information in terms of technology roadmaps," he says.

More ODMs

GPS keeps a close eye on the ODM industry because HP is using ODMs more than in the past. HP has about five EMS providers and about 20 ODMs. More than 50% of HP's outsourcing business is now with ODMs. Five years ago most of it was with EMS providers.

Conrad says ODMs often offer a greater value proposition than EMS companies. "ODM partners have reference designs we can leverage. That reduces our time to market," he notes.

Mike Fawkes, senior vice president of operations for imaging and printing group, says typically business is placed with ODM for products that are standardized, such as printers and desktop and notebook computers.

"We are HP's eyes and ears in the markets where the action happens. We own a lot of supplier relationships. We know what's going on," says Wolfgang Zenger, vice president of HP's global procurement services group.

"With PCs, the base technologies are commoditized. They lie with Microsoft and Intel, but they are industry standard," says Fawkes. HP uses ODMs for its desktops and notebooks.

"One thing we do for all products is look at total value chain costs from development to distribution and delivery to customers. Often having a single company handle everything from

design to delivery to customer is a low cost total solution," he says.

EMS companies are aware of the trend and some are moving to an ODM model or offering ODM services. Case-in-point: Flextronics. "Flextronics is a design partner for us; a manufacturing partner, they provide distribution services and do some repair work for us," says Fawkes.

Fawkes adds that the use of EMS companies and ODMs by HP and other OEMs is a sign of how far the electronics outsourcing industry has come.

"Years ago we were much better manufacturers than EMS companies, but, over time, those guys got good at manufacturing. We had to look at our core competencies and determine if we had a competitive advantage by doing our own manufacturing," says Fawkes.

Do the right thing

While HP works closely with its EMS, ODM and component suppliers on technology and business issues, it also works with them on social and environmental responsibility issues, says Conrad.

"We are working closely with suppliers to meet the European lead-free requirement that goes into effect in 2006," he says. In addition, HP works with its outsourcing partners to recycle parts from old computers. "We will handle one billion tons of recycled computer equipment this year," says Conrad.

HP is also pushing its suppliers not to use child labor and to recognize the rights of workers to organize and receive fair pay.

With the buying clout that HP possesses, suppliers are taking HP's social and environmental concerns seriously. Fifty of HP's top suppliers have agreed to HP's code of conduct concerning child employment, fair compensation and right to organize.

"This year we will add another 100, so 95% of our direct material spend will be with suppliers who have adopted a standardized code of conduct," says Conrad.

The social code of conduct and key supply programs such as buy sell, design for X, procurement risk management and purchasing involvement in design will undoubtedly continue to be important in HP's future. Many of them

have been challenging to implement, but have yielded cost savings and efficiencies and have been worth the effort. HP's next procurement and supply chain challenge may not necessarily be developing entirely new innovative supply chain programs, but fine tuning the ones already in place.

"The key will be network simplification," says Conrad. We need to reduce the number of physical and informational flows in the company and cut down on IT costs. We want to make things simpler for our suppliers; making HP an easier company and a more cost effective company to do business with." ∎

HP takes logistics procurement to the next level

Hewlett-Packard's spend in materials and commodities is nearly staggering, but the company is also one of the world's largest buyers of logistics services, spending $1.7 billion annually for air freight, ground, ocean, rail and third-party services. To put its logistics operations in perspective, HP ships 10 inkjet and two laser jet cartridges every SECOND (or about 36 cartridges shipped while you read that sentence).

But what is most impressive is the amount of control HP has gained over its logistics spend and operations since its mega-merger with Compaq. It was John Frasca, director of worldwide logistics procurement for HP, who was charged with selecting best-in-class processes and contracts between the two organizations and leveraging the massive volumes coming from the new company.

Frasca's logistics procurement team has 19 people broken up by mode carrying a wide variety of experience and expertise. As the story in the June 17 logistics section of PURCHASING documented, HP used e-sourcing tools to dramatically reduce the number of carriers and contracts in place after the merger.

"We had 28 contracts in place with one logistics provider between HP and Compaq," Frasca says. "We now have one contract with that provider. The new contracts are the most stringent many of these carriers have ever signed. But if you want to do business with HP, welcome to the big time."

As an example, Frasca says HP's contracts now allow zero shrinkage allowance, which means if a logistics provider has HP inventory in its facility under its security and the inventory gets lost or damaged, Frasca expects that provider to "belly up" and pay for it.

"Historically, OEMs would provide an allowance for that loss, but it's not on our dime anymore," he says.

The idea of zero shrinkage may be the result of Frasca bringing a fresh perspective to logistics. An engineer by trade with an MBA, Frasca started his career designing nuclear fuel rods and jet fuel controls for the F-18 fighter jet. But his eye for process improvement led him to supply chain operations at Inacom, which was later bought by Compaq.

HP's logistics procurement at a glance

Total spend	$1.7 billion
Largest category	Air freight
Percent of spend under HP control	98.7%
Employees	19
Percent reduction in logistics providers 2002 to 2003	69%

SOURCE: HEWLETT-PACKARD

"You need both industry experience and fresh perspective on a team like ours," he says. "I have some of the best logistics talent in the world on my team. I have those people that have 28 years of logistics experience. I also have someone with a refreshing outlook from other industries. I firmly believe if you always do the same thing you are going to get the same results," says Frasca.

Logistics does not function in a vacuum within HP and, as such, Frasca also sits on teams for indirect procurement, service parts, and various other areas of the procurement operation under Greg Shoemaker, vice president of procurement.

"There is a lot of cross-pollination across our organization," Frasca says. "That's where the e-sourcing strategy came from. I'm tied in closely to other areas of procurement and constantly twisting their strategies to fit logistics when possible. I cannot formulate a strategy from my office or even just with my team."

It's that perspective that helped reduce HP's carrier base by 69% post-merger and bring 98.7% of logistics spend under contract. Frasca made it a top priority to educate internal logistics users and buyers about the advantages of controlling freight spend as opposed to letting material suppliers make freight decisions.

"We do training via Webcasts to employees to educate them that it's not free to ship things on a charter airplane—in fact it's very expensive. The example I use so employees can relate is buying furniture. When you buy furniture, some stores will tell you they give you free shipping. But it's not free—it's included in the price of the furniture and then some."

With strong contracts in place, RFQs are becoming a thing of the past in the logistics organization. Instead, HP evaluates carriers' performance closely based on 13 key performance indicators and categorizes performance in each as green, yellow or red. Examples of these indicators include: how easily a provider can plug in or out of the HP system; ease of doing business and reputation; turnaround time; number of claims; financial stability and how much they invest in technology. HP has yet to invest in transportation or warehouse management systems and prefers to partner with logistics providers that have those capabilities.

With detailed performance tracking in place, Frasca can negotiate better deals with carriers face to face and award new business directly to top-performing providers instead of using RFQ processes to evaluate potential performance.
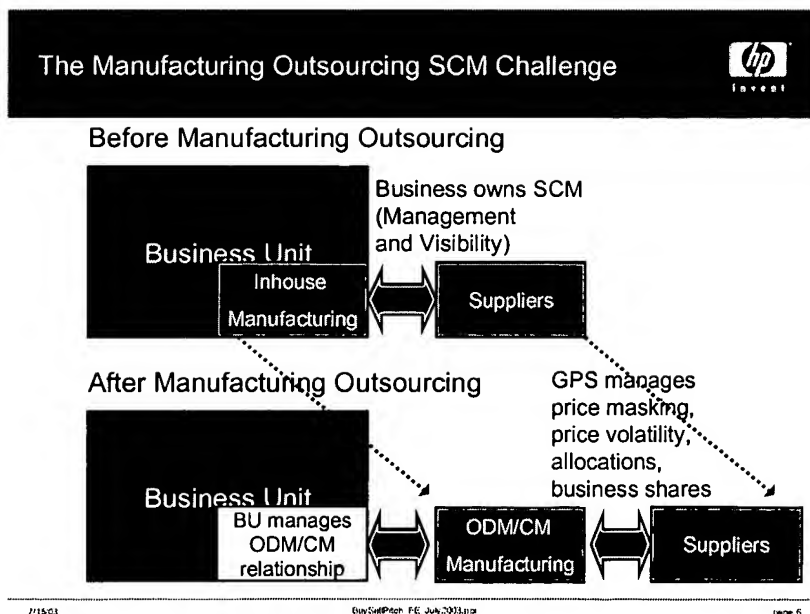
—*David Hannon*

On July 8, 2003, in Zurich, Switzerland, HP has received a benchmarking award from TECTEM, a benchmarking organization, member of the Global Benchmarking Network, hosted by the University of St Gallen. HP has been selected as a successful practice company in the field of supply chain collaboration for it's best practices in both, the company wide 3 party buy/sell process managed by the Global Procurement Services organization, and for it's solution factory concept and best practice in Herrenberg, Germany.
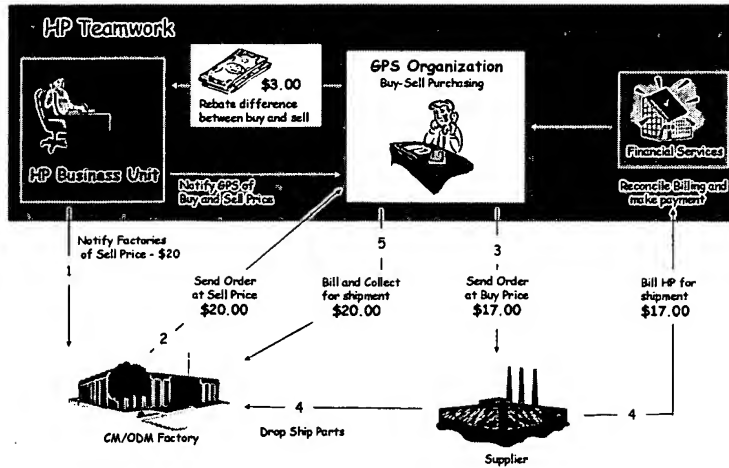
This 2003 benchmarking event started on January 28, 2003 with a kick off meeting of the benchmarking Consortium members. 200 global and regional companies have been selected for the 2003 event with the focus on supply chain strategy, IT tools, process management, and change management.
After an intensive 3 months screening period and substantial analysis using questionnaires, telephone interviews, etc, TECTEM determined a pre-selection of 11 candidates for the final shortlist. In a review meeting of the consortium on April 10, 2003, the 5 best finalists have been selected to be visited individually during May and June 2003, with HP being visited by the consortium member companies on Jun 12 in Germany. Finally, on July 8, during the final Conference, the 5 finalists had to again present and discuss with a broad audience of many companies their best practices before receiving the award certificate.

The benchmarking method applied by TECTEM follows the Benchmarking Code of Conduct and is embedded in the Global Benchmarking Network to make sure the process applied is internationally standardized.

During the exercise it became obvious that HP's GPS 3 party buy/sell process is almost unique in the industry and represents a huge competitive advantage, enabling vital controls in an outsourced manufacturing environment, controls such as price masking, better assurance of supply, central allocation management, bundled buying power, supplier share management, price volatility mgmt, contractual compliance, etc. In addition there is an obvious interest in the market to have GPS as a procurement partner offering it's services to other companies. GPS's procurement service portfolio is highly attractive to companies without this kind of a global network. Also, the getsupply portal of the 3 party buy/sell process got special attention, there's a patent pending for this special highly automated setup.
more information on GPS on URL   http://gps.corp.hp.com/

The Manufacturing Outsourcing SCM Challenge

Before Manufacturing Outsourcing

Business Unit
Inhouse Manufacturing

Business owns SCM (Management and Visibility)

Suppliers

After Manufacturing Outsourcing

Business Unit
BU manages ODM/CM relationship

ODM/CM Manufacturing

GPS manages price masking, price volatility, allocations, business shares

Suppliers

What is a 3 party buy sell Process ?

HP Teamwork

$3.00
Rebate difference
between buy and sell

GPS Organization
Buy-Sell Purchasing

Financial Services

HP Business Unit

Notify GPS of
Buy and Sell Price

Reconcile Billing and
make payment

Notify Factories
of Sell Price - $20

5

3

1

Send Order
at Sell Price
$20.00

Bill and Collect
for shipment
$20.00

Send Order
at Buy Price
$17.00

Bill HP for
shipment
$17.00

2

4

4

CM/ODM Factory

Drop Ship Parts

Supplier

Also, the concept and execution of the HP solution factory in Herrenberg, Germany, the so called "Herrenberg model" is attracting many companies who want to learn how to manage a highly dynamic computer manufacturing business with almost unbelievably high workforce flexibility. This factory again has been awarded a benchmarking certificate for the outstanding capabilities in a highly dynamic manufacturing environment. During the past years the solution factory permanently adjusted itself to manage challenges that changed the competitive environment.
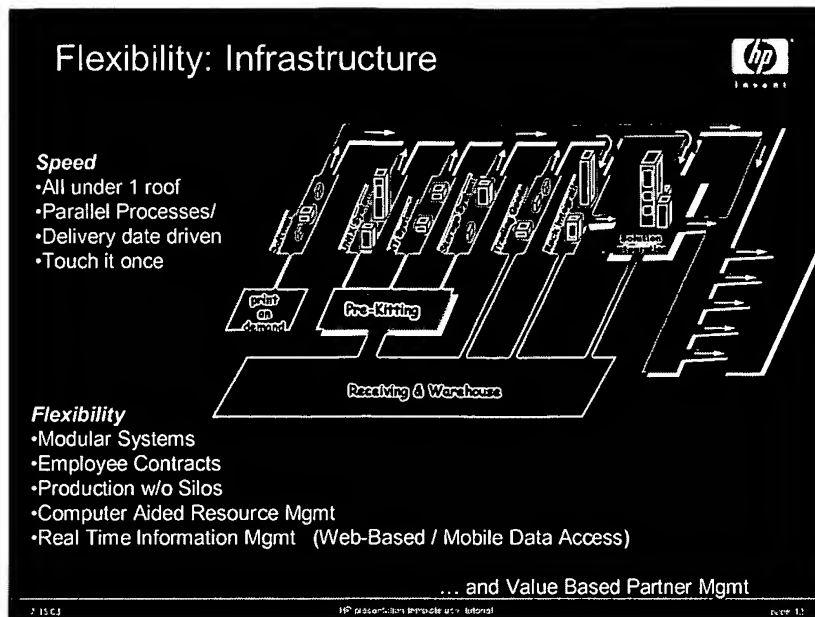
Solution Factory Evolution

to be a competitive advantage

regional solutions

value collaboration — Chapter 4 — Partner Park / Value Collaboration

supply chain

solution integration — Solution Factory / Services and Solutions

build to order — Chapter 3 — Velocity Factory / Speed & Adaptiveness

prebuild - computers

boards — Chapter 2 — Distribution Center / Cost Efficiency

sheet metal

global components

commodities — Chapter 1 — Computer Manufacturing / High Tech Products & Processes

←93 95 97 99 01 03→

from minimizing negative impact

Flexibility: Infrastructure

Speed
- All under 1 roof
- Parallel Processes/
- Delivery date driven
- Touch it once

Flexibility
- Modular Systems
- Employee Contracts
- Production w/o Silos
- Computer Aided Resource Mgmt
- Real Time Information Mgmt   (Web-Based / Mobile Data Access)

... and Value Based Partner Mgmt

The other finalists were:

Fujitsu Siemens Computers with its "breathing factory" concept, global supply chain setup, change management philosophy, forecasting and order fulfillment end to end process

dm for it's supply chain dm-extranet.de visibility tools, company philosophy, supplier management tool, Gategourmet for its catering process using InFlight Exchange™ marketplace SC collaboration tool

ESEC for it's order management ("ship before the customer can cancel the order" speed philosophy) processes and tools, process to force use of standard components, life cycle risk management, STORM tool for procurement risk management

Here's the photo with the awarding ceremony with (from left to right)
Mr Tobias Blumer, TECTEM, University of St Gallen, Project Leader
Mr Jan Felde, TECTEM, University of St Gallen, Scientific Analyst
Mrs Sarbani Thakur-Weigold, HP, Global Operations Workforce Development, Ratingen
Mr Frieder Eckert, HP, Global Procurement Services, Business Process & Consulting Mgr, Boeblingen
Mr Professor Dr Daniel Corsten, Professor at University of St

This is the award HP received:

Transferzentrum für
Technologiemanagement

Universität St.Gallen

We congratulate

Hewlett Packard Company

for being selected as

Successful Practice Company

in the field of

Supply Chain Collaboration

by the following Benchmarking Consortium

- Deutsche Post Fulfilment GmbH
- Escatec Switzerland AG
- Henkel KGaA
- Infineon Technologies AG

- Mibelle Cosmetics AG
- Siemens AG
- SIG Combibloc International AG
- T-Systems International AG

under the guidance of the TECTEM Benchmarking Center,

University of St. Gallen (HSG), Switzerland.

St. Gallen, July 8 2003

Ulrike Hütter
Manager TECTEM

Prof. Dr. Fritz Fahrni
University of St. Gallen (Switzerland)